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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/316,899	05/22/1999	DARKO KIROVSKI	MS1-356US	8452

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EXAMINER	
MEISLAHN, DOUGLAS J	

ART UNIT	PAPER NUMBER
2132	

DATE MAILED: 03/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/316,899	KIROVSKI ET AL.	
	Examiner	Art Unit	
	Douglas J. Meislahn	2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *19 December 2001* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *3,27-32 and 35* is/are allowed.

6)☒ Claim(s) *1,2,4,5,9-26,33,34,36-39 and 42* is/are rejected.

7)☒ Claim(s) *6-8, 40, and 41* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 May 1999* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment filed 19 December 2001 that added claims 36-42 and amended claims 1-3, 22, 26, 33, and 34.

Response to Arguments

2. Applicant's arguments filed 19 December 2001 have been fully considered but they are not fully persuasive.

3. Applicant has attempted to challenge the examiner's taking of Official Notice; however, applicant has not provided adequate information or argument that on its face creates a reasonable doubt as to why the Official Notice is not common knowledge– see MPEP 2144.03. Therefore, the presentation of a reference to substantiate the Official Notice is not deemed necessary. The examiner's taking of Official Notice has been maintained.

4. In the interview, the examiner had attempted to explain why the previous rejection covered the original claim 2. Clarity was not achieved, but the following explanation should help applicant understand the examiner's reasoning. The part in question paraphrases to "selectively choosing insertion of the strong watermark or the weak watermark into segments of the audio signal." Generally "or" phrases broaden claims, as in "pounding with a hammer or a sledge" is broader than "pounding with a hammer." Similar logic is applied to applicant's claims. That is, they are interpreted as "selectively choosing insertion of the strong watermark into segments of the audio signal or selectively choosing insertion of the weak watermark into segments of the audio

signal." The cited references teach selectively choosing insertion of the strong watermark into segments of the audio signal (if perceptible part – insert robust watermark, if imperceptible part – don't insert robust watermark), thereby reading on the claims. Another way to look at this is to read the claims while taking out "or the weak watermark". The claims still make sense. To overcome this, applicant could add "either" after "of". This is consistent with applicant's intended invention, as the examiner understands it.

5. The proposed drawing correction is required as part of the response to this action.

6. Applicant notes that Mintzer et al. layer watermarks where the applicant's intended invention places different types of watermarks in separate areas. Where this difference is embodied in the claims, it is overcome by at least one secondary reference.

7. With respect to claims 1, 4, 22, 26, 33, and 34, paragraph 4 above rebuts applicant's assertion that Mintzer et al. does not show the claim elements. The claims do not preclude layering. With respect to claims 26 and 34, the watermarked portions of Mintzer et al. are distinguishable – the first is unwatermarked and the second contains a robust watermark. Changing "distinguishable" to "separate" would over come this.

8. With respect to Linnartz, the examiner has interpreted claim 12 as "a strong watermark or a weak watermark is", which is consistent with claims 13 and 14 and the use of "is" (as quoted and as is in the claim). The examiner's interpretation does not require multiple watermarks. If applicant insists that "and" was the correct word, it is

noted that the arguments create a discrepancy, in that applicant' has argued that strong and weak watermarks are in separate sections while claim 12 would mandate that they are in the same section. The first clause of claim 12 does little; no element exists with which it is said to synchronize, and it is just an initial screen of data – not a final determination. An input need not be synchronized and serves as initial screen in the sense of in or out.

9. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In the case of claim 2, Levine et al. clearly teach inserting robust watermarks into audible sections to increase their robustness. In the case of claim 5, the official notice makes clear that some sounds within the audible range of frequencies are inaudible as a result of their magnitudes. Thus a person would be motivated to shy away from inserting robust watermarks in these parts, as taught by Levine et al. With respect to claim 9, the official notice provides the motivation of fitting signals within a desired range.

10. Further regarding claim 2, the claim does not mandate that weak watermarks are selected according to an audible measure, as intimated above, nor that layering is disallowed.

11. With respect to claim 17, the first two clauses are covered by the discussion of Levine et al., which incorporates understanding of the official notice. Applicant's assertion that Mintzer et al. provide no implementation details on how to embed multiple watermarks is simply incorrect, as shown by applicant's previous comments regarding layering watermarks. Motivation to combine is spelled out clearly in the claim by Mintzer et al. – multiple watermarks can be used to convey different important sets of information.

12. The arguments pertaining to claim 20 are similar to those of claim 9. Again, and for similar reasons, they are unpersuasive.

Claim Objections

13. Claims 3 and 41 are objected to because of the following informalities: in the second to last line of claim 3 and third to last of claim 41, "insert" should be "inserts". Appropriate correction is required.

Drawings

14. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Although the figure shows an apparatus that could be used in applicant's invention, the figure does not contain elements that applicant considers exclusive to the instant invention.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> **(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.**
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

16. Claims 1, 4, 22, 26, 33, and 34 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by Mintzer et al. ("If One Watermark is Good, Are More Better?").

Applicant specifically stipulates that the claims relate to audio systems. In their abstract, Mintzer et al. mention that watermarks can be put into digital media, which anticipates audio data.

17. Claims 12-14 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Linnartz (5933798).

Linnartz's second figure shows an evaluation circuit, which reads on the second clause of claim 12. The input reads on applicant's synchronization circuit, as in all of the data might contain a watermark. Table I in column 4 shows two values, one of which indicates a match and the other of which indicates the reverse. Although Linnartz's preferred embodiment is disclosed as being an image watermarking system, it is apparent from the introduction that the teachings are applicable to audio systems.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. Claims 2, 36-39, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mintzer et al. in view of Levine et al. (6209094).

Mintzer et al. show data that is watermarked with both robust, or strong, and fragile, or weak, watermarks. They do not say that the placement of any of these watermarks is determined by an audible measure of the data. In lines 45-51 of column 5, Levine et al. say that robust watermarks should be encoded into audible sections of a signal. If recorded into inaudible sections, the data with the robust watermarks could be removed without significantly perceptibly changing the signal. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the robust watermarks of Mintzer et al. within audible regions of the data so as to prevent the watermarks from being stripped without degrading the audio signal.

20. Claims 5, 10, 11, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mintzer et al. and Levine et al. as applied to claim 2 above.

Mintzer et al. show data that is watermarked with both robust and fragile watermarks. Levine et al. say that the robust watermarks should be placed in audible sections of the data. Levine et al. specifically single out inaudible frequencies as ineligible for robust watermark reception. Their disclosures render the final three clauses of claim 5 obvious. Neither reference talks about determining the absolute magnitude of a sound and using that to determine if the data is audible. Official notice is taken that it is old and well known that sounds that are within human's audible frequency range are not necessarily audible. By way of example, consider a dog whistle, which is inaudible to humans no matter how loudly it is sounded, versus an

unheard whisper, which would have been audible had it been spoken more loudly. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to avoid placing robust watermarks within any inaudible sections of Mintzer et al.'s data, be they inaudible because of their frequency or magnitude, because of the teachings of Levine et al.

21. Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Mintzer et al. and Levine et al. as applied to claim 5 above.

Mintzer et al. and Levine et al. have been combined to show data that is watermarked with both robust and fragile watermarks. They do not say that the encoding system includes a compression unit that uses the magnitude components. Official notice is taken that compression units that operate on magnitude components are old and well known. These units have a bevy of uses, one of which is compressing the levels of a signal so that the magnitudes fit within a desired range. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include a compressor with the watermarking apparatus so that the data could be compressed.

22. Claims 17, 18, 21, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linnartz in view of Mintzer et al. and Levine et al.

Linnartz shows a method for detecting watermarks. Element 21 anticipates a pattern generator. Element 24 of figure 3 anticipates a detector. Linnartz does not say that the pattern generator generates both a strong and a weak watermark. Mintzer et al. teach the benefits of incorporating multiple watermarks into data. The different

watermarks, robust, fragile, or otherwise, all convey different types of important information. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made for Linnartz's pattern generator to generate both robust and fragile watermarks in order to check for different types of useful information as taught by Mintzer et al. The first two elements of applicant's claim perform no purpose within the claims, so their treatment is curtailed. They are obvious over Levine et al. in ways outlined in previous sections. With respect to claim 18, Linnartz has already been cited as showing correlation values.

23. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Linnartz, Mintzer et al., and Levine et al. as applied to claim 17 above.

Linnartz, Mintzer et al., and Levine et al. teach a watermark detection system. They do not say that a decompressor is included with the system. Official notice is taken that decompression units that operate on magnitude components are old and well known. These units have a bevy of uses, one of which is decompressing the levels of a signal so that the magnitudes attain their original status. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include a decompressor with the watermarking apparatus so that the data could be decompressed.

24. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mintzer et al. in view of Linnartz.

Mintzer et al. show a watermarking system using multiple watermarks. In the last full paragraph of the first column, Mintzer et al. mention that an owner of digital content

might wish to place a watermark within the content. They do not explicitly say that detection means would reside with a recipient. In lines 18-24 of column 1, Linnartz intimates that detection apparatus can be separate from the source of data. This aids in tracing piracy. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include detecting systems at clients who use the content.

25. Claims 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mintzer et al., Levine et al., and Linnartz as applied to claims 12 and 17 above.

Mintzer et al., Levine et al., and Linnartz show detecting watermarks through the generation and comparison of correlation values. They do not say that the correlation value must be exceeded by a random amount. Official notice is taken that it is old and well to add a random amount to the correlation value in order to combat piracy. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to add a random number to the correlation value in order to combat piracy.

Allowable Subject Matter

26. Claims 3 27-32, and 35 are allowed.

27. Claims 6-8 and 40-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

28. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas J. Meislahn whose telephone number is (703) 305-1338. The examiner can normally be reached on between 9 AM and 6 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (703) 305-1830. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Douglas J. Meislahn
Examiner
Art Unit 2132

DJM
March 6, 2002

GILBERTO BARRON
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